



Complete Summary

GUIDELINE TITLE

Prevention of falls (acute care). Health care protocol.

BIBLIOGRAPHIC SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Prevention of falls (acute care). Health care protocol. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2008 Mar. 26 p. [37 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
QUALIFYING STATEMENTS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT
CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Injuries associated with falls

GUIDELINE CATEGORY

Prevention
Risk Assessment
Screening

CLINICAL SPECIALTY

Geriatrics
Internal Medicine

Nursing
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Health Plans
Hospitals
Managed Care Organizations
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To eliminate all falls with injury in the acute care setting
- To increase the percentage of patients who are screened by an interdisciplinary team for risk of falls on admission and with a change in clinical status
- To increase the percentage of patients who receive the appropriate falls prevention interventions

TARGET POPULATION

Adult hospitalized patients in the acute care setting

Note: The target population of this protocol is the adult hospitalized patient. This does not preclude the use of fall prevention assessment and intervention in the emergency department (ED), but it is not specifically addressed in this guideline.

INTERVENTIONS AND PRACTICES CONSIDERED

1. Obtain organizational support for falls prevention program
2. Establish a process for evaluation of the hospitalized patient for risk of falling
3. Perform risk assessment
 - Test for cognitive dysfunction (dementia, delirium)
 - Assess gait and mobility function
 - Identify potential medication factors
 - Perform an environmental safety assessment
4. Communicate risk factors
 - Use visual communication tools
 - Communicate with patients and families
 - Communicate with all members of the health care team
5. Perform risk factor interventions
 - Establish universal falls interventions for all patients
 - Add strict fall precautions for patients at risk
 - Implement behavioral interventions
 - Implement impaired mobility interventions
 - Perform environmental rounds
6. Continuous monitoring and reassessment

MAJOR OUTCOMES CONSIDERED

Sensitivity, specificity, and reliability of screening tools

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A literature search of clinical trials, meta-analyses, systematic reviews, or regulatory statements and other professional order sets and protocols is performed.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

A. Primary Reports of New Data Collection

Class A:

- Randomized, controlled trial

Class B:

- Cohort study

Class C:

- Non-randomized trial with concurrent or historical controls
- Case-control study
- Study of sensitivity and specificity of a diagnostic test
- Population-based descriptive study

Class D:

- Cross-sectional study
- Case series
- Case report

B. Reports that Synthesize or Reflect upon Collections of Primary Reports

Class M:

- Meta-analysis
- Systematic review
- Decision analysis
- Cost-effectiveness analysis

Class R:

- Consensus statement
- Consensus report
- Narrative review

Class X:

- Medical opinion

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Document Development

A workgroup consisting of 6 to 12 members that includes physicians, nurses, pharmacists, other healthcare professionals relevant to the topic, and an Institute for Clinical Systems Improvement (ICSI) staff facilitator develops each document. Ordinarily, one of the physicians will be the leader. Most work group members are recruited from ICSI member organizations, but if there is expertise not represented by ICSI members, 1 or 2 members may be recruited from medical groups, hospitals or other organizations that are not members of ICSI.

The work group will meet for 3 to 4 three-hour meetings to develop the protocol. Under the coordination of the ICSI staff facilitator, the work group develops the algorithm and writes the annotations and literature citations. The literature is graded in the document based on the ICSI Evidence Grading System.

Once the final draft copy of the protocol is developed, the document is sent to the ICSI members for review and comment.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Review and Comment

The purpose of the review and comment process is to provide an opportunity for the clinicians in the member organizations to review the science behind the recommendations and focus on the content of the protocol. Review and comment also provides an opportunity for clinicians in each organization to come to consensus on feedback they wish to give the work group and to consider changes needed across systems in their organization to implement the protocol.

All member organizations are encouraged to provide feedback on protocols; however, responding to review and comment is not a criterion for continued membership within the Institute for Clinical Systems Improvement (ICSI).

Document Approval

Each protocol is approved by the appropriate steering committee. There is a steering committee for Respiratory, Cardiovascular, Women's Health, and Preventive Services. The Committee for Evidence-based Practice approves guidelines, order sets, and protocols not associated with a particular category. The steering committees review and approve each protocol based on:

- Member comments have been addressed reasonably.
- There is sufficient reason to expect that members will use the protocol with minor modifications or adaptations.
- Within the knowledge of the reviewer, the recommendations in the protocol are consistent with other protocols, regulatory and safety requirements, or recognized authorities.
- When evidence for a particular step in the protocol has not been established, the work group identifies consensus statements that were developed based on community standard of practice and work group expert opinion.
- Either a review and comment by members has been carried out, or within the knowledge of the reviewer, the changes proposed are sufficiently familiar and

sufficiently agreed upon by the users that a new round of review is not needed.

Once the document has been approved, it is posted on the ICSI Web site and released to members for use.

Document Revision Cycle

ICSI scientific documents are revised every 12 to 36 months as indicated by changes in clinical practice and literature. For documents that are revised on a 24- or 36-month schedule, ICSI checks with the work group on an annual basis to determine if there have been changes in the literature significant enough to cause the document to be revised earlier or later than scheduled.

ICSI checks with every work group 6 months before the scheduled revision to determine if there have been changes in the literature significant enough to cause the document to be revised earlier than scheduled.

Literature Search

ICSI staff working with the work group to identify any pertinent clinical trials, meta-analysis, systematic reviews, or regulatory statements and other professional guidelines conduct a literature search.

Revision

The work group will meet for 1-2 three-hour meetings to review the literature, respond to member organization comments, and revise the document as appropriate.

A second review by members is indicated if there are changes or additions to the document that would be unfamiliar or unacceptable to member organizations.

If a review by members is not needed, the document goes to the appropriate steering committee for approval according to the criteria outlined above.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC) and the Institute for Clinical Systems Improvement (ICSI): For a description of what has changed since the previous version of this protocol, refer to [Summary of Changes Report– March 2008](#).

The recommendations for risk assessment and prevention of falls in hospitalized patients are presented in the form of a protocol accompanied by 6 detailed annotations. Clinical highlights and the annotations follow.

Class of evidence (A-D, M, R, X) definitions are provided at the end of the "Major Recommendations" field.

Clinical Highlights

- Best practice results have only been achieved when there is significant organizational support for fall reduction across departments and disciplines. (*Annotation #1*)
- Best practice in fall reduction includes:
 - Strategies of fall risk assessment
 - Visual identification of individuals at high risk for falls
 - Fall risk factor directed interventions
 - Standardized education to prevent falls with injury
- There should be interdisciplinary collaboration on fall prevention at the time of admission between admitting providers having first contact with the patient, including admitting physicians, pharmacists and nurses.
- Fall risk assessment (regardless of age) should at a minimum include:
 - A determination if the patient has fallen in the last year, and
 - A functional performance test – visual observation of the patient's mobility for those not confined to bed rest. (*Annotation #2*)
- Acute care settings should implement a visual identification system for patients at risk of falling. (*Annotation #4*)
- Communication of fall risk across departments and disciplines (including to attending physicians) should be reliable. (*Annotation #4*)
- Multifactorial interventions have been found to be effective on falls. (*Annotation #5*)

Annotations for Prevention of Falls (Acute Care)

1. Obtain Organizational Support for a Falls Prevention Program

It is clear that application of a fall risk tool or prevention protocol by themselves will have little impact on rates of falls and falls with injury. Organizational support for making fall injury prevention a highly prioritized, well-publicized organizational aim that touches all disciplines and departments is necessary for achieving best results. This includes involving and enlisting the support of medical staff of health care organizations to a much greater degree than has been done in the past. This support has been linked to fall reduction rates [D], [R].

Best-practice results have only been achieved when there is significant organizational support for fall reduction across departments and disciplines.

- The organization has an interdisciplinary group in place to oversee the strategic plan for the falls prevention program.
 - The falls prevention program plan is reviewed by the group and updated periodically throughout the year.
 - The organization utilizes a "Unit-Based Champion" approach to falls prevention (or a hospital-wide champion approach for smaller facilities).

- The organization has falls prevention program policies and procedures that are designed for differential interventions based on specific populations and units.
- The organization supports recommendation from the fall prevention group on equipment and environmental safety.

Education of Fall Reduction Policies and Procedures

All clinical and non-clinical staff should understand the hospital's policies and procedures in place for the prevention of falls. Education measures should include:

- All staff are educated on fall prevention indicators and postfall protocols for specific organization.
- Education is ongoing and includes brief understanding of the assessment tool and the implications and strategies for fall prevention.
- All staff should be aware of environmental indicators that can be a potential hazard to patient safety/falls.

2. Establish a Process for Evaluation of the Hospitalized Patient on Admission for Risk of Falling

The question for all hospital staff assessing a patient is "Will this patient fall?" Staff members include physicians, nurses, nursing assistants, transport aides and support staff. In answering this question, current available literature suggests fall risk prediction can be condensed to two elemental questions:

1. Has the patient fallen in the last year?
2. Does he or she look like he or she is going to fall? In other words, does he or she have a clinically detectable abnormality of gait or balance?

The systematic review [M] of fall prediction in community dwelling elderly found that the most consistent predictors of future falls were a history of falls in the last 12 months (likelihood ratio range 2.3-2.8) and clinically detected balance and gait abnormalities (likelihood ratio range 1.7-2.4). It is important to note that visual impairment, medication variables, and impaired cognition or activities of daily living deficits did not consistently predict falls across studies of community dwelling elderly.

These domains are often included in assessments of fall risk upon patient admission to acute care hospitals. Assessment instruments have been developed in the last 10 to 15 years including these domains or risk factors to better predict fall risk on admission and direct fall prevention resources to those patients.

There is no disagreement that some type of fall risk assessment should occur at patient admission to the hospital unit or ward. Only recently has the concept of moving fall risk assessment into the emergency department (ED) been mentioned as a part of a multifactorial fall prevention protocol [D]. There is currently insufficient data in the literature to recommend for or against this approach. It is a concept that health care organizations may wish

to pilot. This protocol focuses on the literature for inpatient assessment tools administered after patients arrive on hospital units.

A number of fall risk assessment instruments (the Hendrich I and II, Johns Hopkins, Innes, Morse, STRATIFY, Downton, Tinetti and Schmidt) have been developed and validated. To date, there has been no consensus as to whether any of these assessment instruments was better than others in fall prediction. In fact, even the best of these scores in terms of sensitivity and specificity underpredicted and overpredicted falls in acute care settings [R]. Fall risk assessment instruments by themselves do not prevent falls, but only predict them. In addition, many of these scores may take four to seven minutes to complete per patient, straining nursing resources [C].

If a risk factor score is used, a further assessment that identifies and treats the modifiable (also termed personal) risk factor is required. A developer of the STRATIFY tool concluded in a recent systematic review that the focus of fall risk assessment should shift directly to identifying and treating those modifiable risk factors. This review included many commonly used scales, such as STRATIFY and Morse. It did not include the Hendrich I scale, as the data were insufficient to calculate odds ratios and confidence intervals [M].

The more recently developed and commonly used Hendrich II fall risk model was not included in the above review. This model includes an easily performed assessment of mobility, names modifiable risk factors, and directly links to interventions or a set of strict fall risk precautions. A score of 5 or greater is classified as high fall risk. Wide spread use and incorporation of the Hendrick II into the electronic medical record has been linked to achievement of fall rates in the "better performer" category of 2.5-3.5 falls/1,000 patient days [C], [D].

If a fall risk assessment is used, internal validation of the instrument within the hospital should occur on a periodic basis [R]. At a minimum, this would include completing a 2x2 table of fall prediction.

Risk Category	Fall N (%)	Did Not Fall N (%)
Assessed as high fall risk		
Not assessed as high fall risk		

From this table, sensitivity and specificity at the facility can be calculated on a periodic basis to determine if the risk assessment tool is performing with adequate sensitivity.

The alternative to using a fall risk assessment instrument is a simple screening protocol of determining if a patient has fallen in the last year, and performing a mobility assessment, either a get up and go test or a timed get up and go test in addition to the clinical judgment of the person assessing the patient [C].

See Resources Available section in the original guideline document to find examples of the Get Up and Go Test and the Timed Get Up and Go Test.

If either of these screening measures suggests increased fall risk, the assessor should determine the modifiable risk factors and identify fall prevention interventions triggered by the presence of that risk factor.

On the basis of the current literature, this work group concluded that:

- Falls risk scores are not an essential part of falls prevention policies.
- The falls risk score may under or overpredict patient falls.
- Any falls risk score should be tested at the facility for specificity and sensitivity.
- Of the currently available fall risk scores, the Hendrich II has been associated with better performance benchmarks in fall prevention in a major multihospital health care system.
- A second stage of assessment for modifiable (personal) risk factors leading to risk factor specific interventions should be done.

3. Perform Risk Assessments to Identify Risk Factors

Cognitive Dysfunction as a Risk Factor

Delirium

Delirium has many synonyms, including acute confusional state, altered mental status, reversible dementia, and organic brain syndrome.

All patients over the age of 65 years on admission, regardless of admitting diagnosis, should be assessed for both dementia and delirium. Geriatric patients with acute illnesses are known to be at a higher risk of falling. This group's review of the literature has identified multiple systematic reviews and original articles demonstrating that patients with delirium or confusion are at higher risk of falls.

There are a number of causes of delirium, the most common of which include acute cardiac or pulmonary events, constipation/fecal impaction, drug withdrawal, electrolyte/metabolic abnormalities, fluid disturbances, indwelling devices, infections, medications, restraints, uncontrolled pain, and urinary retention. Management of delirium initially relies on the ability to determine its underlying cause. Further non-pharmacological and pharmacological treatment approaches are warranted, but outside the scope of this review.

Recognition of delirium is particularly important as a modifiable risk factor for falls and a multidisciplinary approach is needed to screen patients. The work group advocates the use of the four-item Confusional Assessment Method (CAM) [C], as it has a sensitivity of 94%-100%, a specificity of 90%-95% and a high inter-observer reliability. This tool is easy to administer and use, and requires very little training. See the Resources Available section in the original guideline document for CAM.

Dementia

Patients with dementia include those with a diagnosis of Alzheimer's disease, vascular dementia, Lewy-Body dementia, fronto-temporal lobe dementia, and those associated with other disorders. Such patients normally have slower reaction times and demonstrate impaired judgment. In addition, these patients often have impaired mobility, are admitted from nursing homes, have poor baseline functional status, impaired strength, and are at higher risk for significant polypharmacy, all of which are known to place patients at higher risks for falls.

Cognitive impairment has been well established as a risk factor for falls. A recent systematic review demonstrated two studies with likelihood ratios of 17 (1.9-149) and 4.2 (1.9-9.6) [M].

In the inpatient setting, the work group recommends two approaches in screening patients for cognitive impairment. The first is the Mini-Cog, a clinical tool advocated by the Society of Hospital Medicine as a screening instrument for dementia. It involves three items plus a clock-drawing test, can be administered in three minutes, and is highly reproducible and reliable [C]. Two other methods of screening include the Folstein Mini-Mental Status Examination and the Kokmen Short Test of Mental Status. Both can take up to 10 minutes to administer and have been well validated in previous studies in screening for dementia. The Mini-Mental Status Exam (MMSE) is well accepted and commonly used. However, a significant disadvantage is that it is copyrighted and would require a license for use in institutions. Patients with a MMSE score of less than 24/30 are at higher risk for falls. The Kokmen is public domain and has been shown to be just as effective as the MMSE and can be used free of charge. An alternative screening method includes the Short Portable Mental Status Questionnaire [C]. This 10-item questionnaire is easy to administer and patients with five or greater incorrect items have been demonstrated to be at a higher risk of falls [B].

See Resources Available section in the original guideline document for Mini-Cog and Kokmen Short Test of Mental Status.

Impaired Mobility

Impaired mobility has been identified as being a risk factor for falling. This includes impaired gait, weakness, decreased lower extremity mobility, decreased coordination, and balance. The literature also suggests that patients that fall were more likely to have been using an assistive device [M].

Physical assessment of the patient's mobility is an important factor in the identification of patients at risk for falling. The literature contains several different tools to use but does not adequately define the "best" tool. Examples of tools include the Timed Get Up and Go Test, the Tinetti, and the Berg.

The Get Up and Go test takes about five minutes and has patients perform six tasks. It is scored on a five-point scale with 1 being normal and 5 being severely abnormal. The Tinetti Assessment tool takes 10 to 15 minutes. It has been shown to have good inter-rater reliability. Patients who score 19 or below are at high risk for falls. Patients who score between 19-24 are at risk for falls. The Berg Balance Measure tool takes 15 to 20 minutes. The patient

performs 14 tasks to challenge their balance. The higher the score, the more independent the patient is [C].

Medications

Many medications have been implicated as risk factors for falls. Elderly are more prone to adverse effects of medications due to changes in metabolism and slowed clearance from renal and hepatic impairment. In addition, drug interactions leading to adverse effects by additive or synergistic effects may be more prevalent in elderly as they are often on multiple medications [D].

Patients on four or more drugs are at greater risk of falls.

Several drugs are associated with increased fall risk in elderly. Agents that have been associated with falls are anticonvulsants, antidepressants, antipsychotic, benzodiazepines, Class 1A antiarrhythmics, digoxin, opiates and sedative hypnotics.

Particular drugs may be an independent risk factor in itself causing falls in elderly, but other parameters relating to drug use can increase risk even further. For example, with benzodiazepines the risk increases in the first two weeks and higher doses have higher risk (greater than 8 mg diazepam or equivalent) [M], [R]. Benzodiazepines have been recognized as independent risk factors for falls among elderly. Benzodiazepines with a shorter half-life were positively associated with falls during hospital stay. The risk increases if other psychotropic drugs or diabetic medications are being used, if the patient has cognitive impairment, if comorbidities are present, if greater than 80 years of age, or if they were in hospital longer than 17 days. Long-acting benzodiazepines increase falls and the risk of hip fracture [D].

Refer to the original guideline document for more information on increased risk of falls associated with psychotropic medication, antidepressants, diuretics, and others.

Environmental

Physical hazards are often involved in patient falls. An environmental assessment or checklist can often identify modifiable risk factors to falls, such as lack of floor mats, handrails in toilets, poorly anchored rugs or clutter [R].

See Resources Available in the original guideline document for an example of environmental checklist.

4. Communicate Risk Factors

Visual Communication

Identify those at risk by placing visual identifiers such as signs on room and bathroom, wristbands, buttons, stickers, posters, chart identifiers, door/name identifiers, etc.

Members of the health care team, in all departments, should be educated in recognizing these cues. Also all family and visitors should be educated in recognizing and understanding the identifiers and be aware of how to obtain help from appropriate staff.

Refer to the original guideline document for examples of visual identifiers/cues.

Communication to Patients and Families

- Notify patient and family of fall risk upon admission, as risk changes, and upon discharge
- Describe the organization's fall prevention program and educate the patient and family in recognizing and understanding visual identifiers
- Clarify reasonable expectations of the organization
- Discuss how the patient and family members can assist with fall prevention and when/how to contact staff when necessary
- Document evidence of patient education regarding fall risk, and the patient and family members understanding of the risk and prevention measures

[B]

Communication to Members of the Health Care Team Who Come in Contact with Patient

The goals of communication are seamless transition of patient information from one unit to another, one caregiver to another and one department to another. With the Joint Commission's new 2008 National Patient Safety Goal #2E, organizations must implement a standardized approach to hand off communications. In a hospital, such interactions may occur upon arrival to or from the following patient care areas:

- Radiology
- Procedure suites for cardiac catheterization
- Endoscopy
- Physical therapy

Visual identifier clues (ruby slippers, falling stars, wristbands, etc.) should be active and prominent so every department that is dealing with the patient should be able to relate to the high risk status of the patient. Members of the health care team, in all departments, should be educated in recognizing these cues.

A transport procedure checklist documents the information for transfer of the patient and responsibility for care from one department and caregiver to another. Similarly some facilities use a patient passport as a comprehensive checklist that must be completed and signed before a patient can leave the care unit. Such a checklist should include the risk fall status and recommendations such as "do not leave the patient unattended."

If a patient receives medications, such as midazolam and lorazepam for procedures or radiology tests, communicate this to nursing staff on the patient's unit. A handoff communication protocol such as SBAR (Situation, Background, Assessment, Recommendation) is recommended. The patient should then be monitored closely for the next 24 hours as the risk for falling increases with these medications.

5. Perform Risk Factor Interventions

Universal Falls Interventions

These interventions should be present for all patients regardless of risk of falling:

- Familiarize the patient to the environment
- Have the patient demonstrate call light use
- Maintain call light within reach
- Keep patient personal possessions within patient reach
- Have sturdy handrails in patient bathrooms, room and hallway
- Place hospital bed in low position
- Keep hospital bed brakes locked
- Keep non-slip, well-fitting footwear on patient
- Utilize night light or supplemental lighting
- Keep floor surfaces clean and dry. Clean up all spills promptly
- Keep patient care areas uncluttered
- Communicate patient fall risk to all caregivers

[R]

Strict fall precautions (for patients at risk). Universal interventions, plus the following:

- Mark patient's door with "Please help prevent falls" sign
- A staff member must remain with the patient when assisted to the bathroom
- Offer assistance to bathroom/commode or use bedpan hourly while awake
- Walking/transfer belts available near the bedside
- Assess need for home safety evaluation, including physical and occupational therapy consultation, as part of discharge planning needs
- Staff member performs hourly checks of patient
- Assess the need for 1:1 monitoring and arrange as needed
- Use chair or bed alarm

Behavioral interventions can be used in patients with dementia in order to prevent falls. There is limited success with pharmacotherapy. These interventions can be implemented by the multidisciplinary team and should be communicated to the patient's primary care provider in order to prevent falls in the outpatient setting. Maintain consistency in procedures, routines and schedules, and staff allocation. Identify possible triggers for agitated, impulsive behavior, such as a particular medication, time of day, infection or loud noise, and minimize them when possible.

Refer the patient to occupational and physical therapists to assist with behavioral management, to develop a plan to maximize orientation, awareness and function, and to determine whether gait aids are needed and used appropriately and correctly.

Impaired mobility interventions should be multidisciplinary in nature. The following interventions have been employed by hospital systems to reduce fall rates. However, the literature is contradictory in determining which intervention is most effective. Hospitals generally use multiple interventions to produce their improvement in fall rates. [R]

Interventions:

- Patients should wear their shoes or non-skid footwear (some have used red slippers for easy identification by staff).
- Physical therapy (PT) and occupational therapy (OT) consults for evaluation treatment
- Instruct the patient to rise slowly
- Early and regular ambulation of high-risk patients
- Repeated education of safety measures to the patient and family members
- Assist high-risk patients with transfers
- Use of patient's regular assistive device such as a walker or cane, or equipment recommended by PT or OT
- Regularly scheduled assistance with toileting
- Provide supportive chairs with armrests
- Apply hip protectors to patients at high risk for hip fracture
- Adequate day time and night time lighting for ambulation and activities of daily living
- Elevated toilet seats
- Use of a gait belt or transfer belt during mobility activities

[M], [R]

Environmental Interventions

Facility management, nursing and biotech staff should perform environmental rounds to confirm that hallways and patient areas are well lit, uncluttered and free of spills. Also that locked doors are kept locked when unattended, handrails are secure, and tables and chairs are sturdy. Biotech staff should inspect assistive devices regularly. Nursing staff should confirm that patient rooms are set up in a way that minimizes the risk of falling. All staff should make sure that unsafe situations are dealt with immediately.

See Resources Available in the original guideline document for an example of environmental rounds.

Refer to the original guideline document for information on hip protectors, removal of physical restraints, fall alarm devices, and other physical environmental changes.

6. Continuous Monitoring and Reassessment

All patients admitted to acute care need to be monitored and reassessed on a regular basis. Hourly rounding by nurses to check changes in the patient's condition is one strategy that can determine the need for reassessment [C]. Due to the likelihood of continuous changes, patients should be continuously reassessed even though they may not be in a high-risk fall group. Routine reassessments should occur at shift change, with a change in the patient's clinical status and following a fall.

The same assessment tool should be used on all reassessments. If risk factors have changed from the previous assessment, interventions need to be revised to address any new risk factors.

Definitions:

Classes of Research Reports:

A. Primary Reports of New Data Collection

Class A:

- Randomized, controlled trial

Class B:

- Cohort study

Class C:

- Non-randomized trial with concurrent or historical controls
- Case-control study
- Study of sensitivity and specificity of a diagnostic test
- Population-based descriptive study

Class D:

- Cross-sectional study
- Case series
- Case report

B. Reports that Synthesize or Reflect upon Collections of Primary Reports

Class M:

- Meta-analysis
- Systematic review
- Decision analysis
- Cost-effectiveness analysis

Class R:

- Consensus statement
- Consensus report
- Narrative review

Class X:

- Medical opinion

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is classified for selected recommendations (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate prevention of falls in acute care

POTENTIAL HARMS

The falls risk score may underpredict or overpredict patient falls.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- This health care protocol is designed to assist clinicians by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinician's judgment or to establish a protocol for all patients with a particular condition. A health care protocol will rarely establish the only approach to a problem.
- This health care protocol should not be construed as medical advice or medical opinion related to any specific facts or circumstances. Patients are urged to consult a health care professional regarding their own situation and any specific medical questions they may have.
- The target population of this protocol is the adult hospitalized patient. This does not preclude the use of fall prevention assessment and intervention in the emergency department (ED), but it is not specifically addressed in this guideline. Fall risk assessment in the ED is relevant in those situations where the presence of high fall risk is a consideration in ward placement of patients

admitted to the hospital. Presently, published fall prevention literature gives little, if any, guidance on the role of the ED in fall prevention efforts.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Once a guideline is approved for release, a member group can choose to concentrate on the implementation of that guideline. When four or more groups choose the same guideline to implement and they wish to collaborate with others, they may form an action group.

In the action group, each medical group sets specific goals they plan to achieve in improving patient care based on the particular guideline(s). Each medical group shares its experiences and supporting measurement results within the action group. This sharing facilitates a collaborative learning environment. Action group learnings are also documented and shared with interested medical groups within the collaborative.

Currently, action groups may focus on one guideline or a set of guidelines such as hypertension, lipid treatment, and tobacco cessation.

Detailed measurement strategies are presented in the original guideline document to help close the gap between clinical practice and the guideline recommendations. Summaries of the measures are provided in the National Quality Measures Clearinghouse (NQMC).

Priority Aims and Suggested Measures

1. Eliminate all falls with injury in the acute care setting.

Possible measures for accomplishing this aim:

- a. Fall prevalence: rate of inpatient falls per 1,000 patient days.
 - b. Fall with injury: rate of inpatient falls with injury per 1,000 patient days.
2. Increase the percentage of patients who are screened by an interdisciplinary team for risk of falls on admission and with a change in clinical status.

Possible measures for accomplishing this aim:

- a. Percentage of patients screened by an interdisciplinary team.
- b. Percentage of patients receiving a functional performance test.

Increase the percentage of patients who receive the appropriate falls prevention interventions.

Possible measure for accomplishing this aim:

- a. Percentage of patients who receive the appropriate falls prevention interventions based on assessment risk factors.

Key Implementation Recommendations

The following system changes were identified by the protocol work group as key strategies for health care systems to incorporate in support of the implementation of this protocol.

1. Organizational leadership needs to identify and support an interdisciplinary falls prevention team comprising clinical and non-clinical staff to oversee the falls prevention program. The team should include at least one provider with a background or additional education in falls prevention.
2. Organizations need a reliable process in place for a comprehensive, interdisciplinary clinical assessment, communication and risk factor intervention plan.
3. Falls prevention education should be provided to patients, families, clinical and non-clinical staff.
4. Organizational leadership needs to support systems that promote learning, ongoing evaluation and improvement of the falls prevention program, including analysis of fall rates and injuries (fall/1,000 patient days and fall with injury/1,000 patient days). The analysis should report on the internal effectiveness (validity) of fall screening and effectiveness of interventions applied to those screened at risk.

IMPLEMENTATION TOOLS

Quality Measures

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

RELATED NQMC MEASURES

- [Acute care prevention of falls: rate of inpatient falls per 1,000 patient days.](#)
- [Acute care prevention of falls: rate of inpatient falls with injury per 1,000 patient days.](#)

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Institute for Clinical Systems Improvement (ICSI). Prevention of falls (acute care). Health care protocol. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2008 Mar. 26 p. [37 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2008 Mar

GUIDELINE DEVELOPER(S)

Institute for Clinical Systems Improvement - Private Nonprofit Organization

GUIDELINE DEVELOPER COMMENT

Organizations participating in the Institute for Clinical Systems Improvement (ICSI): Affiliated Community Medical Centers, Allina Medical Clinic, Altru Health System, Aspen Medical Group, Avera Health, CentraCare, Columbia Park Medical Group, Community-University Health Care Center, Dakota Clinic, ENT Specialty Care, Fairview Health Services, Family HealthServices Minnesota, Family Practice Medical Center, Gateway Family Health Clinic, Gillette Children's Specialty Healthcare, Grand Itasca Clinic and Hospital, HealthEast Care System, HealthPartners Central Minnesota Clinics, HealthPartners Medical Group and Clinics, Hutchinson Area Health Care, Hutchinson Medical Center, Lakeview Clinic, Mayo Clinic, Mercy Hospital and Health Care Center, MeritCare, Mille Lacs Health System, Minnesota Gastroenterology, Montevideo Clinic, North Clinic, North Memorial Care System, North Suburban Family Physicians, Northwest Family Physicians, Olmsted Medical Center, Park Nicollet Health Services, Pilot City Health Center, Quello Clinic, Ridgeview Medical Center, River Falls Medical Clinic, Saint Mary's/Duluth Clinic Health System, St. Paul Heart Clinic, Sioux Valley Hospitals and Health System, Southside Community Health Services, Stillwater Medical Group, SuperiorHealth Medical Group, University of Minnesota Physicians, Winona Clinic, Ltd., Winona Health

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GUIDELINE COMMITTEE

Committee on Evidence-Based Practice

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AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Development and revision process for guidelines, order sets, and protocols. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2007 Jun. 5 p. Electronic copies: Available from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](http://www.icsi.org).

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PATIENT RESOURCES

None available

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